GUIDELINES ON HIV SELF-TESTING AND PARTNER NOTIFICATION

SUPPLEMENT TO CONSOLIDATED GUIDELINES ON HIV TESTING SERVICES

Annex 19: HIV self-testing and partner notification services: Case examples

DECEMBER 2016

#Test4HIV
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### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>3ie</td>
<td>International Initiative for Impact Evaluation</td>
</tr>
<tr>
<td>ANC</td>
<td>antenatal care</td>
</tr>
<tr>
<td>CBO</td>
<td>community-based organization</td>
</tr>
<tr>
<td>CBCHS</td>
<td>Cameroon Baptist Convention Health Services</td>
</tr>
<tr>
<td>CHTC</td>
<td>couples HIV testing and counselling</td>
</tr>
<tr>
<td>CHW</td>
<td>community health worker</td>
</tr>
<tr>
<td>FSW</td>
<td>female sex workers</td>
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<tr>
<td>HIVST</td>
<td>HIV self-testing</td>
</tr>
<tr>
<td>HTS</td>
<td>HIV testing services</td>
</tr>
<tr>
<td>IRDO</td>
<td>Impact Research and Development Organization</td>
</tr>
<tr>
<td>KCH</td>
<td>Kamuzu Central Hospital</td>
</tr>
<tr>
<td>KNH</td>
<td>Kenyatta National Hospital</td>
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<tr>
<td>MSM</td>
<td>men who have sex with men</td>
</tr>
<tr>
<td>MUSC</td>
<td>Medical University of South Carolina</td>
</tr>
<tr>
<td>NGO</td>
<td>non-governmental organization</td>
</tr>
<tr>
<td>PEPFAR</td>
<td>The US President’s Emergency Program for AIDS Relief</td>
</tr>
<tr>
<td>PITC</td>
<td>provider-initiated HIV testing and counselling</td>
</tr>
<tr>
<td>PMTCT</td>
<td>prevention of mother-to-child transmission of HIV</td>
</tr>
<tr>
<td>PN</td>
<td>partner notification services</td>
</tr>
<tr>
<td>PPC</td>
<td>post-partum care</td>
</tr>
<tr>
<td>PWID</td>
<td>people who inject drugs</td>
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<tr>
<td>RDT</td>
<td>rapid diagnostic test</td>
</tr>
<tr>
<td>SFH</td>
<td>Society for Family Health</td>
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<tr>
<td>STI</td>
<td>sexually transmitted infection</td>
</tr>
<tr>
<td>THT</td>
<td>Terrence Higgins Trust</td>
</tr>
<tr>
<td>UCSF</td>
<td>University of California-San Francisco</td>
</tr>
<tr>
<td>UNC</td>
<td>University of North Carolina-Chapel Hill</td>
</tr>
<tr>
<td>USAID</td>
<td>US Agency for International Development</td>
</tr>
<tr>
<td>VAAC</td>
<td>Viet Nam Administration for AIDS Control</td>
</tr>
<tr>
<td>VCT</td>
<td>voluntary counselling and testing</td>
</tr>
<tr>
<td>VMMC</td>
<td>voluntary medical male circumcision</td>
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<td>WHO</td>
<td>World Health Organization</td>
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19.1 Introduction

Despite achievements in scaling up HIV testing, a substantial testing gap remains, and in 2015 approximately 40% of all people with HIV remained unaware of their status (1). This challenge requires a new focus and additional approaches to reach people at risk for HIV and those living with HIV who remain undiagnosed as early as possible.

To support countries, the World Health Organization (WHO) developed a supplement to the 2015 consolidated guidelines on HIV testing services, which included new recommendations on HIV self-testing (HIVST) and assisted HIV partner notification services (2). As with previous guidelines, a series of web annexes are included to provide additional in-depth information. This annex provides case examples of HIVST and partner notification services to augment the information from reviews of the published literature.

19.2 Methodology

To develop this annex, we adapted the methodology for collecting case examples as described in the WHO Consolidated guidelines on HIV testing services (HTS) (3).

In order to determine specific features of each programme, we developed a standardized template and requested organizations delivering HIVST and partner notification services to describe their programmes and the challenges, successes and the programmatic impact. Along with the template we also requested high-resolution photographs to help illustrate the programme. If the photo included identifiable individuals, written consent was required for each individual.

We identified prospective contributors for case examples by:

1. Asking WHO HIV department organizations or points of contact to submit relevant case examples.
2. Contacting WHO regional offices and focal points; UN partners; key population and civil society networks; international and national NGOs; individuals managing or implementing programmes; and all members of the WHO Steering Committee, Guideline Development Group and peer reviewers for the Consolidated guidelines on HTS.
3. Posting and promoting an international call for case examples on the WHO HIV Department website.¹

Participation was voluntary. Organizations could also elect to maintain anonymity in publicly available documents.

All case examples meeting inclusion criteria were reviewed and edited by a minimum of two reviewers to standardize and ensure quality of the case examples. Reviewers were comprised of WHO Steering Group and Guidelines Development Group members. All reviewers scored case examples. Scores were then aggregated using Qualtrics, an online survey tool. Case examples with the highest scores were selected for inclusion in the guidelines.

Selected case examples were then reviewed by WHO consultants (SD and CF). Consultants then finalized the selected case examples in collaboration with at least one representative from a programme.

Selection process results

Twenty-two case examples were submitted, 13 were on HIVST and nine were on partner notification services. Seventeen met inclusion criteria and were reviewed. These 17 case examples—9 on HIVST and 8 on partner notification services are provided in this annex.

19.3 Case examples

Case examples are organized by category—HIVST or partner notification services. Within these categories, examples are listed by country in alphabetical order, within their respective WHO regions.

Each case example provides a short description of the programme, including the focus area(s) and important elements of programme activities. Some case examples also note key successes and challenges encountered during implementation. Case examples with an asterisk were previously included in the supplement of the 2015 Consolidated guidelines on HTS.

19.3.1 HIV self-testing

African Region

Kenya | Impact Research and Development Organization and University of North Carolina at Chapel Hill

In 2015, the University of North Carolina-Chapel Hill (UNC) and Impact Research and Development Organization (IRDO) piloted an intervention in Kisumu County in which HIV-negative women at most recent HIV test, were given multiple HIVST kits and encouraged to distribute them to their sexual partners and to others in their social network. The purpose was to improve access to HIV testing among male partners and to promote safer sexual decision-making. UNC and IRDO conducted a prospective cohort study to assess the feasibility of this “secondary distribution” approach. Women attending government antenatal care (ANC) and post-partum care (PPC) clinics as well as female sex workers (FSW) were enrolled. ANC and PPC women were each given three oral fluid HIVST kits while FSW received five oral fluid HIVST kits. The study explored whether women distributed HIVST kits to individuals in their sexual and social networks.

Trained study staff provided women with an oral fluid-based HIVST kit and instructed the women on how to use the kit and how to talk to their male partners about HIV testing and self-testing. Follow-up interviews were conducted with participants over a 3-month period. During the follow-up period, participants or other self-test users had access to a 24-hour telephone hotline for further advice on the use of the HIVST kits as well as information on linkage to care or protective support if they experienced violence.

Over the 6-month study period, 280 women were enrolled and 265 women completed follow-up interviews. Of the kits distributed, 97% (691/709) were reportedly used. All but one participant distributed an HIVST kit to a friend or sexual partner and the majority (76% ANC, 75% PPC and 56% FSW) used or distributed all the kits given to them. Women gave 445 self-test kits to male sexual partners, and 442 kits (99%) were reported to have been used by those partners. Most women reported that they distributed an HIVST kit to their primary sexual partner, 53 (91%) women in the ANC group, 91 (86%) in the PPC group, and 64 (75%) in the FSW group.

Among FSW, 82 (81%) of 101 distributed more than one HIVST kit to their commercial sex clients. Participants reported sexual intercourse with 235 (62%) of 380 sexual partners who had a non-reactive HIVST, compared with eight (18%) of 45 with a reactive HIVST; condoms were used in all eight intercourse events after positive results compared with 104 (44%) after of negative results.

Distribution of HIVST kits led to the identification of 41 HIV-positive male partners among the FSW group. Of those sexual partners who tested positive, 26 (65%) sought confirmatory testing and 23 (58%) enrolled in HIV care. There
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were no reports of violence among ANC study participants due to self-testing. In both the PPC and FSW groups, two women in each group reported experiencing violence due to testing.

Kenya | Jhpiego

In 2015, Jhpiego (an affiliate of Johns Hopkins University), working with the Medical University of South Carolina (MUSC), with support from International Initiative for Impact Evaluation (3ie) and the Bill and Melinda Gates Foundation, implemented a study to evaluate the impact of using oral HIVST kits on HTS uptake among male partners of ANC clients. The study was conducted in 14 sites in Central and Eastern provinces of Kenya from July 2015 to February 2016.

The study was a three-arm randomized controlled trial where consenting women at first ANC were randomized to:

- Group 1 receiving standard of care in Kenya—all pregnant women sent home with a generic invitation card asking partners to come to the health facility to discuss the health of the family;
- Group 2 receiving an improved card with explicit information on HIV and prevention of mother-to-child transmission (PMTCT); or
- Group 3 receiving the improved card plus two oral fluid-based HIVST rapid diagnostic tests (RDT) for self-testing containing instructions for testing with the partner at home.

The study enrolled approximately 475 women in each arm. Prior to enrolment, women were screened for potential safety risks such as intimate partner violence. A study staff member provided a demonstration to women in Group 3 on how to use a self-test kit, how to interpret the results and how to handle their partners in case the test result was reactive. Women and male partners were both surveyed after three months to measure uptake of HIV testing.

The study found that in the intervention arm that received HIVST kits (Group 3), 82.6% (327/396) of male partners tested for HIV, versus 37% (133/362) in the improved invitation card arm (Group 2), and 28.3% (106/375) in the standard of care arm (Group 1). Of the male partners testing at home, 72% reported that they went for a confirmatory test at the health facility. In each arm of the study, over 95% of the women reported discussing HIV testing with their partner. In the HIVST arm, 79% of the women reported taking the HIV test together with their partner. Over 80% of men and women reported that it was “very easy” to understand the instruction, take the sample, read and interpret the results.

South Africa | Anova Health Institute and University of California San Francisco

Anova Health Institute (Anova) and University of California San Francisco (UCSF) have been working to provide friendly services to men who have sex with men (MSM) in Mpumalanga Province through the Health4Men and Boithato programmes since 2013. The programmes operate in the Gert Sibande district, a largely peri-urban and rural district with high HIV prevalence (35.6%). In 2015, Anova/UCSF launched an HIVST programme that aimed to document the acceptability and feasibility of implementing HIVST among MSM in the community, and to measure whether HIVST would increase uptake of HIV testing or impact sexual risk behaviours, such as serosorting and condom use, while monitoring any social harms and exploring mechanisms for linkage to care.

HIV-negative MSM who agreed to participate in the study received HIVST kits. Participants could choose between an oral fluid or a fingerstick whole blood-based RDT. Participants received a demonstration on how to use the test they selected, and they were provided with a logbook to document their experiences and five HIVST kits. The kits came with the manufacturer’s instructions for use, a list of local HIV/AIDS and related resources including a 24-hour hotline number, condoms and lubricant Study staff advised all participants to test every three to six months, in accordance with WHO guidelines. Staff also explained that the tests could be used with partners or friends with

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whom they felt comfortable testing. Those with a reactive self-test were referred directly to an Anova Nurse Mentor, who could manage their HIV care in an MSM-friendly environment (where competent, prejudice-free sexual healthcare is provided for MSM and a sex-positive attitude among health-care workers is promoted).

HIVST participants completed surveys about the testing experience at enrolment. Participants could return for more test kits at three months and at the study exit visit at six months. The 24-hour telephone hotline, periodic follow-up calls to participants from study staff, as well as survey questions were used to monitor and document any questions or concerns about testing as well as a means for referral and counselling.

Overall, 51 out of 55 participants who returned for follow-up visits reported that they self-tested at least once and that they distributed 331 HIVST kits to others. Two-thirds of participants said they gave HIVST kits to a partner, 96% gave tests to friends, and 88% gave tests to family members. Two participants had a reactive self-test during the study, both of whom were linked to care. Participants reported an additional 10 reactive tests among those with whom they shared test kits, leading to 12 people recently identified with HIV; 75% of those receiving an HIVST kit from a study participant reportedly shared their results with the participant. Study participants reported (on the hotline) no social harms following the use or distribution of HIVST kits by study participants.

Participants reported that HIVST was highly acceptable, with all participants trusting their result and stating that they would likely self-test again if it were available. Over 80% of participants said they preferred HIVST to standard clinic-based testing for their next test. Forty-five participants also conducted HIVST in front of an observer at their 6-month visit, with 40/45 (88%) correctly completing all steps of the test of their choice. As a result, while participants reported few problems conducting tests, additional training materials and resources (apps / videos) are currently being developed to improve performance of self-testing.

Anova/UCSF is expanding the HIVST programme with the MSM community of Ehlanzeni district, which includes Mbombela, the Mpumalanga provincial capital.

http://www.anovahealth.co.za/health4men/

**Zambia | Society for Family Health**

In September 2015, the Society for Family Health (SFH) initiated a four-year HIVST project in four districts. This project distributes free oral HIVST kits to the general population aged 16 years and above using one facility-based and two community-based channels of distribution (one of which was a voluntary medical male circumcision (VMMC) service delivery site). Linkage to post-test services such as confirmatory testing and ART for HIV-positive individuals and VMMC for HIV-negative males is advised.

The project used a multipronged methodology for project implementation and evaluation: 1) Advocacy with key stakeholders such as the Ministry of Health; 2) Development of data tools namely client intake forms, volunteer registers and referral/linkage forms; 3) Community engagement to assure community buy-in and involvement; 4) Health centre preparedness for linkages to care. To initiate distribution of kits, SFH selected 20 community volunteers (1 volunteer per health centre catchment area zone) from one high-volume health centre in Lusaka District. Using project-specific training guides, volunteers were trained to distribute HIVST kits and to provide information to potential users on the processes required for testing and linking to care. Data collected using project tools facilitated routine monitoring of project outcomes. SFH’s research partner, Zambart, will conduct higher-level impact evaluation using baseline, midline and endline surveys.

From 1-18 July 2016 the project distributed 1073 HIVST kits, 11.6% at facility level and 88.4% at community level (27.6% through the VMMC Channel). Overall, 12% of recipients were new testers. Of the 948 who had tested before, most (84%) had tested within 12 months before they took the self-test. The median age of testers was 24 years. Only 19% of all testers required assistance with testing. The majority (53%) of testers were single. More females (54%) obtained test kits, while 17% tested as couples.
Region of the Americas

Brazil | “A hora é agora”: an internet-based HIV self-testing strategy*

“A hora é agora” (“The time is now”), is a comprehensive programme to increase HIV testing and linkage to care among MSM in the city of Curitiba. The programme is being implemented by the Municipal Health Secretariat of Curitiba, the Oswaldo Cruz Foundation, the Department of Sexually Transmitted Disease, AIDS and Viral Hepatitis of the Brazilian Ministry of Health, the Federal University of Paraná, Grupo Dignidade and the Centers for Disease Control and Prevention.

The programme uses a secure web-based platform and both iOS and Android apps to offer MSM free oral fluid HIVST kits (up to two kits every six months), as well as condoms and lubricants, and support to promote linkage to care. The programme is actively promoted using virtual and mobile media (social networking, dating websites), as well as face-to-face at social/sexual gatherings. The HIVST kits can either be delivered through the regular postal system or anonymously picked up at a public pharmacy using a system-generated code.

Testers can access video tutorials and multimedia instructions on how to correctly use the HIVST kit and interpret the results. They can also receive additional support through a 24/7 telephone hotline. Individuals with a reactive or inconclusive self-test result are instructed to seek further testing at the HIV counselling and testing centre (COA) in Curitiba. Those with a reactive result who are confirmed HIV-positive at the COA are then supported to link to treatment and care. All individuals are asked to report their self-test results confidentially using a web-based platform or by sending the results by mail using a pre-paid envelope.

As of 31 January 2016, the programme website received 67,225 visits and 2527 unique requests for an HIVST kit. The programme distributed over 4,000 HIVST kits, the majority of which were sent by mail. Seventeen percent (432/2527) of individuals who requested an HIVST kit self-reported their test results through the web-based platform. Of these, 4.4% (19/432) reported having a reactive self-test result. Overall, 81% (30/37) of testers who reported a reactive result received confirmatory testing at the COA; all were confirmed HIV-positive.

www.ahoraeagora.org

European Region

Ukraine | Alliance for Public Health

In 2015, Alliance for Public Health initiated a new outreach-based HIV testing approach called ‘assisted HIV self-testing’. Prior to 2015, HIV testing access was limited by the availability of sufficient time from medical staff; in most cases staff were available only 2-3 hours every day or every other day. To alleviate this issue, assisted self-testing was introduced. A trained outreach worker (some of whom are peers) assists clients to perform a self-test and interpret the results. They can also link clients to further diagnosis and care in the case of a reactive result.

Peer outreach workers take advantage of visits with clients (for syringe or condom distribution) to offer fingerstick/whole blood-based rapid tests for self-testing. Clients can refuse to self-test and instead receive standard testing.

Since the introduction of this approach, access to HIV testing has increased from 40% to 120% of the coverage (60% of reached clients to be tested twice a year). In 2015, more than 149,000 people who inject drugs (PWID) were

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*1 While the programme had planned to distribute 2 kits for each request, only 1 kit was distributed at the outset, and 2 kits were eventually distributed for subsequent requests.
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tested using assisted self-testing; this represents 67.5 % coverage with HIV testing services, compared with 66,481 PWID tested in 2014, representing 31.6% coverage.

www.aph.org.ua

United Kingdom | Terrence Higgins Trust

The Terrence Higgins Trust (THT) led a pilot of an internet-based HIVST service that made HIVST kits available for free and also evaluated the feasibility and acceptability of the programme. The pilot ran for one month, starting June 25th 2016. Services targeted key populations in the United Kingdom: MSM and black men from sub-Saharan Africa and the Caribbean. The programme was based on a previously successful HIV self-sampling service.

The service was promoted online and through social media using Facebook, Twitter and Grindr. Participants visited a dedicated website, entered basic demographic and contact details and answered five risk assessment questions. Those who were eligible for the service received a fingerstick/whole blood-based HIVST kit by regular mail. Those who were ineligible were referred to alternative means of HIV testing. Participants were asked to provide feedback about their result and to consent if they were willing to be contacted at a later stage to evaluate the service. All participants reporting a reactive result received a phone call by THT offering advice, information and access to care.

Many participants (5000) ordered and received an HIVST kit, of which 97% (4850/5000) identified as MSM; the mean age of participants was 31 years (range 16–80 years). The study targeted a high-risk population; 20% (1000/5000) had never had an HIV test before and 38% (1900/5000) had not tested in over a year. Eighty-one percent of participants (4050/5000) reported having two or more sexual partners in the last year and 49% (2450/5000) reported having had unprotected sex in the last year, and (60% (3000/5000) had had unprotected sex with two or more partners).

Eighty-three percent of participants (4510/5000) reported having had sex under the influence of alcohol or drugs in the last year, while 14% (700/5000) reported this “most of the time”. Fifty-one percent of participants (2550/5000) informed the study team of their result, 29 of whom reported a reactive result.

The THT staff was able to contact and speak to 93% (27/29) of participants with a reactive result. Three of them already knew they were positive and one had a false reactive result. Remaining participants (23/27) were confirmed to have accessed care. An evaluation survey was sent to all participants. Analysis of the initial 516 responses showed high levels of satisfaction; 98.8% said they would use the service again and 85.7% said the self-testing service encouraged them to take a test.

Western Pacific Region

China | Guangzhou Center for Disease Control and Prevention

In 2014, through collaboration with a local community-based organization (CBO), the Guangzhou Center for Disease Control and Prevention (Guangzhou CDC) built a Social Entrepreneurship HIVST (SET) Model to promote HIV testing and linkage to care among MSM.

The SET model was developed based on an e-commerce platform and social media applications. It included a few key steps: Each client first completed an online survey, and paid a conditional refundable fee of USD$23 to receive a package containing two fingerstick/whole blood-based test kits: an HIVST kit and a syphilis self-testing kit. Participants were asked to photograph and share their results for a full refund of the fee. CDC staff interpreted the results from the picture and gave feedback to participants. Participants with reactive results for HIV and/or syphilis were contacted to receive counselling services, confirmatory testing, and linkage to care. Participants who did not report their results within four weeks received a follow-up call.
As of June 2015, 198 MSM received the self-testing kits and 97% (192/198) of them reported their results; 92.7% (178/192) of them had performed self-testing within four weeks of receiving the kits. In total, 4.5% (8/178) of participants had an HIV reactive result and 3.7% (6/178) had a positive result detecting past or current syphilis infection. All participants with a reactive result for HIV received confirmatory testing and were linked to care. Participants with syphilis were encouraged to undergo further confirmatory testing at either local CDCs or hospitals. Apart from offering self-testing kits, the SET model also provided pre- and post-test counselling services, ongoing support and guidance, referral for further testing, and linkage to care.

**Monthly service usage of three types of HIV self-test plans**

The pilot began in December 2015 and participants received fingerstick/whole blood-based RDTs for self-testing. Testers with a reactive result were provided with information on where to confirm their results and access for treatment and care.

From May 20 until July 20, 2016, 377 clients self-tested for HIV. In total 7% (26/377) of testers had a reactive self-test and were confirmed HIV-positive; they were all linked to and enrolled in treatment services. Respondents reported appreciating the speed and confidentiality of self-testing: "I like the convenience of self-testing and that it is completely confidential. I can know my status faster", said one MSM client in Ho Chi Minh City. Additional qualitative data from the pilot were analysed and used to inform development of tutorial videos and product inserts and to improve HIVST product design.
VAAC plans to use the results of this pilot to develop national guidelines on community HIV testing that includes HIVST by the end of 2016.

19.3.2 Partner notification

**African Region**

**Cameroon | Cameroon Baptist Convention Health Services**

In 2007, the Cameroon Baptist Convention Health Services (CBCHS) introduced assisted HIV partner notification as a strategy to break the chain of HIV transmission in communities by integrating partner notification services into antenatal clinics, inpatient facilities, and community-based HIV testing programs in rural, peri-urban, and urban areas in the Northwest and Southwest regions of Cameroon. In 2015, the program expanded to the Centre and Littoral Regions of Cameroon. As of December 2016, the program had trained 240 health advisors of whom 198 were still actively providing partner notification services in 40 health facilities, including government, faith-based, and private health facilities. Health advisors provided partner notification services in addition to their usual duties as nurses, laboratory technicians, social workers, physicians or chaplains.

Health advisors obtained verbal consent to interview newly-diagnosed HIV-positive clients about their sexual partners. The health advisor and the HIV-positive client then agreed on whether to use passive, provider, or contact referral to notify sex partners of their exposure to HIV and the need for HIV testing. Health advisors notified partners, in person or by phone, that they were exposed to HIV, conducted pre-test counselling, and offered to do an HIV test or refer the partner to a clinic for HIV testing. Later, health advisors followed up with partners to confirm that they had tested for HIV. The health advisors referred all HIV-positive clients and partners to HIV care and treatment and linked pregnant HIV-positive clients and contacts to prevention of mother-to-child transmission (PMTCT) services. Health advisors educated both the HIV-positive clients and partners on HIV prevention and risk reduction.

Health advisors recorded pertinent information on forms that are kept in a secure area. The data are entered into Epi Info or Excel and are used to evaluate the partner notification services and for clinical follow-up. CBCHS has provided partner notification services to over 24,000 HIV-positive clients as of December 2016, with no serious social harm reported. A marked increase in persons reached in 2016 was enabled by PEPFAR funding which rapidly expanded partner notification services in the Littoral and Center Regions. The partner notification programme notified over 60% of partners who were exposed to HIV, tested three-fourths of those notified, of whom almost half were HIV-positive, and linked over two-thirds of HIV-positive partners to care.

### Cumulative summary for the CBCHS partner notification programme 2007–2016

<table>
<thead>
<tr>
<th>ENTIRE PROGRAMME SUMMARY 2007–2016</th>
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<tbody>
<tr>
<td>------</td>
</tr>
<tr>
<td>Index persons</td>
</tr>
<tr>
<td>Contact persons</td>
</tr>
<tr>
<td>CP notified</td>
</tr>
<tr>
<td>CP tested</td>
</tr>
<tr>
<td>CP with HIV- pos results</td>
</tr>
<tr>
<td>CP linked to care and tx</td>
</tr>
<tr>
<td>Index persons</td>
</tr>
</tbody>
</table>

CP – contact persons  
Tx – treatment
Cameroon | Cameroon Baptist Convention Health Services

Partner notification has rarely been used in sub-Saharan Africa or in Cameroon. CBCHS began implementing assisted partner notification services in 2007 as a strategy to increase male partner disclosure, testing, and linkage to care, thereby reducing HIV transmission. Partner notification was integrated into the prevention of mother-to-child transmission of HIV (PMTCT) programme in 2013 at 22 sites implementing the Option B+ regimen. The sites were located in the rural, peri-urban, and urban settings of Kumba and Bamenda health districts, in the Southwest and Northwest regions. Both districts have an HIV prevalence of about 5% among the pregnant women served.

From March 2013 to August 2014, trained health advisors who were nurses providing ANC services at the B+ sites, interviewed consenting HIV-positive pregnant women about their sexual partners in the last two years, and facilitated disclosure or confidentially informed their partners that they had been exposed to HIV. Partner notification approaches (passive, contract, and provider referral) were used depending on the choice of the pregnant woman, and occurred either over the phone or face-to-face. Health advisors offered partners free HIV testing in the clinic, their homes, or any location of their choice in the community. Health advisors followed up with partners to verify that they had received HTS and also recorded the test result. HIV-positive partners were immediately linked to HIV care and treatment services. Service providers then encouraged disclosure between partners, provided couples counselling, and educated couples on HIV risk reduction and the importance of male partner involvement in PMTCT.

During the 18-month period of implementation, a total of 823 pregnant women tested HIV-positive at the 22 Option B+ sites. Of the 840 partners they identified, 693 (83%) were traced and notified of their exposure to HIV. Among the 693 notified, 421 (61%) completed an HIV test and received results. A total of 139 (33%) of the male partners tested were HIV-positive and 138 (99%) were linked to appropriate care and treatment services. The 282 (67%) partners who tested HIV-negative were counselled on risk reduction. In five health facilities male partner involvement increased from 3.1% in 2012 to 15.7% in 2014. No instances of physical or sexual abuse were reported.

Kenya | Kenyatta National Hospital

A Kenyatta National Hospital (KNH) / University of Washington programme on assisted partner notification services was piloted in Nairobi, Kenya in 2015. Partner notification in this programme involved providing community-based, immediate provider referral for partners exposed to HIV. This approach was compared with the standard of care in Kenya, which is facility-based contract referral where HIV-positive clients are encouraged to bring their partners in for testing within six weeks, after which the provider will notify the partner.

Health advisers obtained consent from HIV-positive clients attending the KNH Comprehensive Care Centre for their partners to be contacted and tested for HIV either in the community or in the health facility. Partners traced in the community were contacted using a phone number provided by the HIV-positive client. Counselling and testing for HIV was done in person in the community for provider referral or in the health facility for contract referral. A smart phone tablet with an Open Data Kit questionnaire was used to collect data. The two approaches, community-based provider referral and facility-based contract referral, were compared and the results are presented below.

The pilot programme recruited 419 HIV-positive clients of whom 262 (62.5%) were women. The community-based, assisted partner notification services yielded more partners notified 113/218 (51.8%) as compared to facility contract referral 58/201 (28.9%). Overall, among the 171 partners who were notified, 160 (93.6%) consented to be tested and 60 (37.5%) tested positive for HIV. These rates were higher compared to voluntary HIV testing in Kenya of 5.6%. Similar proportions of partners tested positive in both partner notification groups: 39/113 (34.5%) through community provider referral and 21/58 (36.2%) through health facility contract referral.

Community-based partner notification has high potential for reaching HIV-exposed partners of HIV-positive clients. In qualitative focus groups, assisted partner notification was found to be acceptable to both HIV-positive clients and their partners. Participants also described perceived barriers to utilizing partner notification services. Participants did report that they were afraid that their partner’s reaction to notification would result in relationship loss, intimate
partner violence and stigma, or death, and that they would be blamed for "bringing the disease" to the family. However, no such social harms were reported at 6-week follow-up.

Kenya | LVCT Health*

LVCT Health is a non-governmental organization in Kenya that delivers HTS, prevention interventions, and care and treatment to the general population, key populations, and adolescents in community and facility settings. A pilot partner notification programme was conducted in the two informal settlements of Mlolongo and Kawangware in Nairobi from December 2015 to May 2016. Lay counsellors offering HTS in community settings (HTS sites, outreach, and door-to-door) used contract referral to identify the sexual partners and family members of HIV-positive clients, as well as social contacts among key populations who could benefit from HTS.

Lay counsellors received training on PN, screening for intimate partner violence and creating a confidential and safe environment for HIV-positive clients to identify the sexual partners whom they wished to notify. The counsellors used a register to record phone numbers and the physical location of identified partners. Counsellors notified partners face-to-face and encouraged them to test for HIV. Counsellors made appointments for clinic or home visits for partner testing, including with their family members if requested. Results of partners identified, notified, and tested were reviewed on a weekly basis with monthly supervision of counsellors.

Of 341 clients who tested HIV-positive, 205 participated in the programme. Participants identified 580 partners/contacts, of whom 331 (57%) returned for HIV testing; 116 (35%) were found to be HIV-positive. Among the HIV-positive partners/contacts, 104 (90%) were adults, and 12 (10%) were children. A total of 91% of the HIV-positive contacts were enrolled in HIV care. No social harm was reported.

<table>
<thead>
<tr>
<th>Summary of results of index client follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>HIV-positive clients</td>
</tr>
<tr>
<td>Contacts identified</td>
</tr>
<tr>
<td>Contacts tested</td>
</tr>
<tr>
<td>Contacts positive</td>
</tr>
</tbody>
</table>

This programme found that the partner notification approach involving a provider with telephone follow-up is effective for identifying HIV-positive individuals who do not know their status. It requires investment of time, money, capacity, and supportive supervision of the lay counsellors undertaking the task. Partner notification services also enabled providers to identify HIV transmission networks, sexual behaviour patterns, and optimal locations for service provision.

The diagram below is a case study of a 26-year-old woman engaged in transactional sex with multiple partners in the community. By tracing her contacts and social network, 14 HIV-positive individuals were identified and entered into HIV care.
An HIV partner notification programme was evaluated in the Sexually Transmitted Infections/Reproductive Health outpatient clinic (STI unit) at Kamuzu Central Hospital (KCH) in Lilongwe as part of a randomized control trial to evaluate the effectiveness of different partner notification strategies. Lilongwe is an urban area with an estimated adult HIV prevalence of 17% during the trial. The STI unit at KCH is a free clinic that provides services to approximately 1100 clients per month. All clients seeking treatment at the clinic are tested for HIV under an “opt-out” policy. During the 12 months preceding implementation of the partner notification program, 1127 new HIV infections were identified.

Clients with new HIV diagnoses presenting to the clinic between October 2, 2008 and September 2, 2009, who consented to participate in the study, were randomly assigned to passive referral, contract referral, or provider referral. If partners of HIV-positive clients assigned to contract referral did not present to the clinic within 7 days, providers attempted notification. Of the HIV-positive clients eligible for participation, 89% enrolled in the study. HIV-positive clients provided information on all of their sexual partners from the previous 3 months to lay HIV counsellors in the clinic. Two lay counsellors trained in community engagement and partner notification administered provider referral services. Partners receiving referral services were initially contacted by phone, but notification of possible exposure to HIV was communicated face-to-face for the vast majority of partners.

Overall, 240 HIV-positive clients were enrolled in the partner notification program and 302 partners were elicited. Usable locator information was provided for 252 partners. Among the 252 locatable partners, 24% (20/82) identified by passive referral, 51% (45/88) by contract referral, and 51% (42/82) by provider referral presented to the clinic for HIV testing. Sixty-seven partners tested HIV-positive (64%) and 54 (52%) were newly diagnosed with HIV, including one partner with acute infection. The median CD4 count of HIV-positive partners was 344 cells/ml and 51% had a CD4 count less than 350 cells/ml. All index persons and HIV-positive partners were referred to the Lighthouse HIV treatment clinic located adjacent to the STI clinic.

Through qualitative data collection, most HIV-positive clients and partners expressed a preference for passive referral, however all identified benefits of provider-assisted partner notification and the universal right for all HIV-exposed persons to know their HIV exposure, and to benefit from HIV testing and ART. Many participants mentioned couples counselling as a way to reduce tension and communicate accurate information. Lay HIV
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counsellors provided the partner notification services in this programme, increasing programme sustainability and scalability in resource-limited settings.

**Malawi | UNC Project-Malawi**

In 2014, a randomized controlled trial compared two different partner notification strategies among HIV-positive pregnant women in Malawi’s Option B+ program. The first strategy, “invitation only,” was a modified passive referral strategy in which newly-diagnosed HIV-positive pregnant women were given a written invitation to invite their male partners to the clinic for family-focused health information. The second strategy, “invitation plus tracing,” was a modified contract referral strategy in which women received the same invitation and permitted the clinic to contact one male sexual partner if he did not present within one week. A male community health worker (CHW) contacted men who did not present with their partners after the specified timeframe. The initial contact was by phone, and then the CHW traced the partners in the community if they could not be reached. The strategies were compared for the proportions of women returning to the clinic with a partner and accepting HTS with counselling and test results received together.

This programme differed from traditional partner notification because the partner was not informed about his potential HIV exposure during the invitation process. Instead, HIV status disclosure was delayed until the couple was at the clinic to reduce the possibility of intimate partner violence. Additionally, CHTC was provided in this programme rather than individual HIV testing and counselling, due to the greater benefits of CHTC on HIV prevention and care-seeking behaviours.

Two hundred participants were recruited from Bwaila Hospital Antenatal Unit for the study. Women were eligible if they were HIV-positive, pregnant, over 18 years or 16-17 years and married, had not received CHTC at that visit, intended to remain in Lilongwe for one month, and had a locatable sex partner in Lilongwe. Eligible and consenting participants provided locator information for their male partner, responded to a behavioural questionnaire, and received their randomized assignment. One week later, couples were asked to present for CHTC.

Three hundred thirty-six HIV-positive pregnant women were screened, 220 (66%) were eligible, and 200 (91%) were enrolled. In the “invitation only” arm, 52% presented for CHTC, and in the “invitation plus tracing” arm, 74% presented (p=0.001). In the “invitation plus tracing” arm, more couples initiated safer sexual behaviours, had a male partner linked to care, and exhibited one-month female retention. There were no instances of intimate partner violence resulting from the study.

One month after enrolment, women attended a follow-up visit in which four major themes emerged: desire to protect the family’s health through adherence to ART (best achieved with a partner’s support), importance of clinical outreach in facilitating disclosure, overall supportive reactions from partners upon disclosure, and strengthened relationships to cope with and manage HIV infection.

**Main study outcomes**

<table>
<thead>
<tr>
<th></th>
<th>Invitation only</th>
<th>Invitation + Tracing</th>
<th>Risk Difference (Confidence interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion receiving CHTC</td>
<td>52/100 (52.0%)</td>
<td>74/100 (74.0%)</td>
<td>22.0% (-15.7%, 16.6%)</td>
</tr>
<tr>
<td>Proportion of tested men HIV positive</td>
<td>37/52 (71.2%)</td>
<td>53/74 (71.6%)</td>
<td>0.5% (-28.1%, 12.1%)</td>
</tr>
<tr>
<td>New HIV-positive diagnosis (of all positives)</td>
<td>26/37 (70.3%)</td>
<td>33/53 (62.3%)</td>
<td>-8.0% (-19.6%, 18.3%)</td>
</tr>
<tr>
<td>New HIV-positive men linked to care</td>
<td>5/26 (19.2%)</td>
<td>15/33 (45.5%)</td>
<td>26.2% (2.4%, 50.0%)</td>
</tr>
<tr>
<td>HIV-positive male CD4 count &lt;500</td>
<td>25/31 (80.7%)</td>
<td>32/40 (80.0%)</td>
<td>-0.6% (-17.3%, 13.3%)</td>
</tr>
<tr>
<td>Female experienced 1 month default</td>
<td>17/100 (17.0%)</td>
<td>9/100 (9.0%)</td>
<td>-8.0% (-1.5%,</td>
</tr>
</tbody>
</table>

4 This approach is also known as couples HIV testing and counselling (CHTC).
### The United Republic of Tanzania | Jhpiego

A group of researchers and policymakers, led by USAID and the Ministry of Health, Community Development, Gender, the Elderly and Children of The United Republic of Tanzania, evaluated the integration of partner notification into routine, facility-based HTS offered to the general population. From June to September 2015, the Accelovate project implemented by Jhpiego, with funding from PEPFAR through USAID, evaluated the feasibility, acceptability and effectiveness of partner notification in the context of routine HTS, specifically integrated with voluntary counselling and testing (VCT) and provider-initiated testing and counselling (PITC). In Njombe region of The United Republic of Tanzania (with the country’s highest HIV prevalence, 14.8%), newly-diagnosed HIV-positive men and women in the three government hospitals were enrolled in the partner notification project. HIV counsellors offered them the choice of passive, contract, or provider referral. HIV-positive clients were then screened for risk of intimate partner violence (IPV). Both HIV-positive clients and sexual partners who were newly diagnosed with HIV were offered HIV care and treatment services.

The study employed both quantitative and qualitative methods to capture key outcomes, including the proportion of HIV-positive clients willing to list partners; preferred referral method among the HIV-positive clients; proportion of partners who reported to the facility, got tested for HIV, and tested HIV-positive for the first time; and proportion of HIV-positive partners enrolled into care and treatment. Over half (390 or 59.7%) of newly-diagnosed HIV-positive men and women elected to participate in the partner notification project, and 238 (56.6%) of the sexual partners elicited came to the facility for HIV testing. One hundred forty-seven (61.7%) partners tested HIV-positive, none of whom had known their HIV status, and 88 serodiscordant couples were identified. Of the 147 partners testing HIV-positive, 93 (63.2%) enrolled into care and treatment. Almost all HIV-positive clients (91.7%) chose passive referral, and listed a spouse as the sexual partner to notify; thus the intervention was largely used as a means to disclose HIV serostatus to a primary sexual partner. Implementers should be aware that many serodiscordant couples may be identified through partner notification and should be offered the best quality prevention and treatment services.

### European Region

**Portugal | CheckpointLX**

CheckpointLX is a peer-led, community-based centre providing HTS and linkage to HIV prevention and care for MSM in Lisbon. CheckpointLX provides condoms, lubricants, counselling, rapid testing for HIV, syphilis, and hepatitis C virus, screenings for Neisseria gonorrhoea, Chlamydia trachomatis, human papilloma virus and anal cancer, and other support services for MSM living with HIV. In Lisbon, HIV incidence is estimated to be 2.8% and HIV prevalence 17% for MSM. CheckpointLX has been recognized by the European Centre for Disease Prevention and Control for being a leading model in HIV prevention and care for MSM.
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and Control as a new and innovative service and was selected by WHO as an example of good practice reflecting the new HIV testing recommendations and a new way for health-service delivery in the European Region.

CheckpointLX initiated the CheckOUT program in June 2015. CheckOUT is a web-based, voluntary, client-led partner notification service. It is intended to be a tool for anonymous and self-led disclosure of a recent HIV or STI diagnosis or reactive test at the CheckpointLX centre. After receiving a diagnosis or reactive test, a peer provides the STI- or HIV-positive client with a user login for the CheckOUT area of the CheckpointLX official website. User logins expire after 30 days and can only be used once. On the CheckOUT page, STI- or HIV-positive clients insert partners’ phone numbers or email addresses, agree with disclaimers and predefined notification wording, and submit. A predefined message will be sent automatically to the contacts from a CheckpointLX official phone number or email address.

Outcome data were collected from June 2015 to April 2016. CheckOUT access was granted to 106 MSM. During this period, 25 MSM used the service to inform 168 partners. Since June 2015, 21 people reported they came to CheckpointLX for testing or screening due to receiving a CheckOUT notification; two tested HIV-positive and four had reactive syphilis rapid tests. The two men who tested HIV-positive also had syphilis co-infection. All 21 MSM had been tested for HIV in the previous 12 months. The two HIV-positive clients were successfully linked to care and had their first HIV medical appointment. Two of the four MSM who were reactive for syphilis were assessed, confirmed positive and treated. The other two decided to search confirmatory testing and treatment outside CheckpointLX.

References